OPERATING MANUAL

LC100A

Protable Meter

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Hangzhou Junce Instrument Co., Ltd.

Contents

1. Contact

If you have any problem or requirement when using our products or this manual, please contact JUNTEK.

E-mail: **junce@junteks.com**
Website: **www.junteks.com**

2. Inspecting Package Contents

When you get a new Protable Meter of LC200A, please inspect the instrument as follows:

2.1 Check if there is damage due to transportation

If the package is damaged, please retain them until the instrument and accessories are tested.

2.2 Check package contents

Contents of the case are as bellows, if the content does not match with the packing list or the instrument is damaged, please contact us.

	LC100A Protable Meter	1pc
Accessories:	Test clip	2pc
	User manual(pdf)	1pc
Optional:	DC 5V adapter	1pc
	Mini USB cable	1pc

2.3 Check the machine

If the machine was damaged; did not work properly or failed to pass performance tests, please contact your dealer or our company.

3. Summary

3.1 Brief introduction

LC100A Protable Meter is based on the LC resonant principle, add in high speed microcontroller's precision computation. The meter has wide measurement range and high precision, it's measuring range is below 1uH and 1pF. Small size, light weight and easy to carry.

3.2 Main function

3.2.1 Measurement

LC200A is easy to use, it has four measuring range position:

1. C range ....Capacitance (0.01pF-10uF)
2. L range ....Inductance (0.001uH-100mH)
3. Hi.L range ......Big inductance (0.001mH-100H)
4. Hi.C range ......Big capacitance (1uF-100mF)

3.2.2 Calibration

Capacitance Mode----- open circuit calibration;

Inductance Mode----- --short circuit calibration.

3.2.3 Display

Direct reading display.

3.2.4 Frequency display

While measuring the element, you can view the current frequency.

3.3 Technical data

Item		**Parameter**
Capacitance accuracy	1pF~1uF	1%
	1uF~10uF	5%
Measurement resolution of capacitance （C Range）		0.01pF
Inductance accuracy	1uH~100mH	1%

Measurement resolution of inductance (L Range)		0.001uH
Large inductance accuracy	100mH~1H	1%
	1H~100H	5%
Measurement resolution of large inductance (Hi.L Range)		0.001mH
Large capacitance accuracy	1uF~100mF	5%
Measurement resolution of large capacitance (Hi.C Range)		0.01uF
Test Frequency	L Range、C Range	500kHz
	Hi.L Range	500Hz ~50KHz
Measurement method of capacitance、Inductance and Large Inductance		LC Resonance
Measurement method of large capacitance		Charge-discharge
Display		1602 LCD
Effective display digits		4 digits
Interface to power supply		Mini USB &Φ5.5DC Socket, 4 of AA Batteries
Supply Voltage		5V
Dimensions (L * W * H)		150*89*29mm
Weight		198g

3-1 Technical data

3.4 Environmental Requirements

1、Do not place the meter in the environment of dusty, vibration, direct sunlight or corrosive gas.

2、LC200-A must operate under the following environmental conditions:

Temperature：0℃-40℃

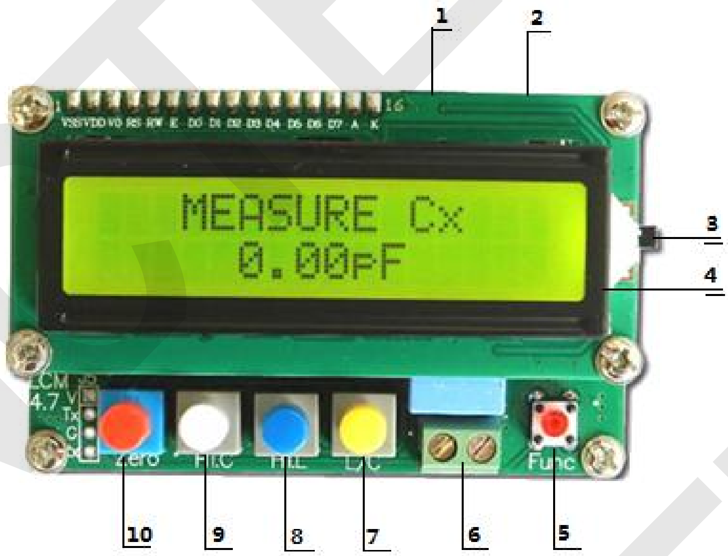
Humidity：≤90%RH (At 40 ℃)

3、Storage Temperature:

-25℃-50℃. If you don't use the meter for a long time, please packaged and store it in a dry environment.

1.Instrument Introduction

1.1 Structure Description



Item	Introduction	Item	Introduction
1	5.5 DC Socket	6	Test terminals
2	Mini USB interface	7	The select button of L/C
3	Power Switch	8	The select button of Hi.L
4	1602LCD	9	The select button of Hi.C
5	Extended function button	10	Calibrating button

4-1 The introduction of LC-100A

1.2 Button Description

There are five buttons, they are reset button in red, Hi.C button in white、Hi.L button in blue、L/C button in yellow and extended FUNC button in red. The gear selection function of LC-100A is in the table below, which Hi.C, Hi.L and L / C buttons are self-locking. Assuming Press is 1, release is 0, X represents any.

	Hi.C	Hi.L	L/C
Capacitance(C Range)	**0**	**0**	**0**
Inductance(L Range)	**0**	**0**	**1**
Large Inductance(Hi.L Range)	**0**	**1**	**1**
Large Capacitance(Hi.C Range)	**1**	**X**	**X**
Gears error, fix	**0**	**1**	**0**

1-2 LC-100A menu

2. Operation

2.1 Power On

5.1.1 Plug 5V adapter, LC-100A can be powered by a mini USB interface or 5V power adapter with Φ5.5DC Socket.You can also power the instrument with 4 of AA Batteries.

5.1.2 Switch on. The meter will show the company name and product model.

5.1.3 Enter capacitor test status.

2.2 Test

You should select the appropriate gear based on the approximate range of the device under test. Before the test, the display will be different when the test clips open or short.

	Test clips open	**Test clips short**
Capacitance (C) show	MEASURE Cx 0.00pF	MEASURE Cx OVER RANGE
Inductance (L) show	MEASURE Lx OVER RANGE	MEASURE Lx 0.000uH
Large inductance (Hi.L) Show	MEASURE Hi.L OVER RANGE	MEASURE Hi.L 0.000mH

Large capacitance (Hi.C) Show	MEASURE Hi.C 0.00uF	MEASURE Hi.C 0.00uF

2-1 Each Gears open, shorted display status

2.3 Calibration

If the meter test clips open, the capacitor value displayed is not zero, or short-circuit inductance value test instrument display is not 0, you can reset to “0” by ways of capacitance model and inductance model.

<u>2.3.1 Capacitance model</u>

Press red button as testing clips open, it will displays “CALCULATING…”, keep pressing the button for one second, when the meter shows “CALCULATING…OK” , release the red button. Resetting to “0” is finished, and “0.00pF” is displayed, then capacitances can be measured.

<u>2.3.2 Inductance model</u>

Press the red button when the test clips short,the meter will show “0.000uH” or “0.000mH”, then inductances can be measured.

2.4 Measurement operation

You should select the appropriate gear based on the approximate range of the device under test.

After the boot, make sure all the buttons are in the bounce, the default program is small capacitor gear, you can directly measure capacitance in the 0.01pF ~ 10uF range.

In the Hi.C gear, make sure the test capacitor is fully discharged, then pick the red test clip to the capacitor positive, the black one to the capacitor negative. The test result can be read from the display.

It should be noted that when measuring a larger capacitance (10mF above), the test time will be more than 1 second, the greater the capacitance the longer the test time.100mF takes about 7-8 seconds. If the test result is not accurate enough, you can calibrate it as follows, Press red button as testing clips open , it will displays “CALCULATING…”, keep pressing the button for one second, when the meter shows “CALCULATING…OK” , release the red button to complete the calibration process.

2.5 Check the Frequency

If you want to see the current frequency of the device under test. Please press function button as results displayed, and corresponding frequency will be displayed.

3. Cautions

3.1 Please reset to "0" before testing a capacitance or an inductance, or errors may be appeared. Even if "0" displayed before measuring, resetting to "0" is needed.

3.2 At the time of resetting to "0", when"CALCULATING…OK" appeared, please keep pressing for 2 to 3 seconds, and the parameter written to "<DATA SAVED>" will be prompted, then release.

3.3 Resetting to "0" is forbidden as components are being measured. If you do it, please shut down immediately and restart, then reset to "0".

3.4 The time of measuring a big capacitance (above 10mF) may be more than one second, and it needs seven to eight seconds to get the measured value of the capacitance (100mF).

3.5 Forbid to measure a capacitance which is not discharged, otherwise it may damage the mainframe.

4. Warranty and service

Thank you for purchasing our products. To maximize the use of the new product features, we recommend that you take the following steps:

1. Read safe and efficient use instruction.
2. Read the warranty terms and conditions.

We warrants to the original purchaser that its product and the component parts thereof will be free from defects in workmanship and materials for a period of one year from the data of purchase.

We will repair or replace, at its' option, defective product or component parts. Returned product must be accompanied by proof of the purchase date.

Exclusions: This warranty does not apply in the event of misuse or abuse of product or as a result of unauthorized alternations or reapers. It is void if the

serial number is alternated, defaced or removed.